# ALBERTA TEACHER SUPPLY & DEMAND FORECAST: 1988-1991

## Technical Report

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# ALBERTA TEACHER SUPPLY AND DEMAND
# FOUR-YEAR FORECAST

School Year 1988-89 through 1991-92

Planning Secretariat
Alberta Education
August, 1988

**Acknowledgments**

We would like to express our thanks to the people who have made this Teacher Supply & Demand report possible.

In particular, we would like to extend our thanks to staff in the Teacher Certification & Development Branch, who worked long and extra hours in developing accurate historical figures for teacher supply and demand. A salute also to staff in the Information Services Branch, who responded so willingly to numerous requests for different versions of various data sets. The Finance & Support Services Branch provided the pupil projections and enhanced these projections by including the ECS (Early Childhood Services) Private Operators and pre-school populations as well.

We would also like to thank the Registrars of the three Alberta universities for their assistance in developing teacher graduate projections. The responsibility for the final figures, however, lies with Alberta Education.

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# TEACHER SUPPLY/DEMAND FOUR-YEAR FORECAST
## School Year 1988-89 to 1991-92

### EXECUTIVE SUMMARY

Although difficulties in recruiting fully qualified and experienced teachers can be anticipated in some subject areas (e.g., French, Special Education), the overall supply of teachers is expected to exceed demand. The highlights of the data analysis are presented below (these figures are based on Alberta Bureau of Statistics Series 5 medium-growth population projections, with an economic turnaround in 1989).

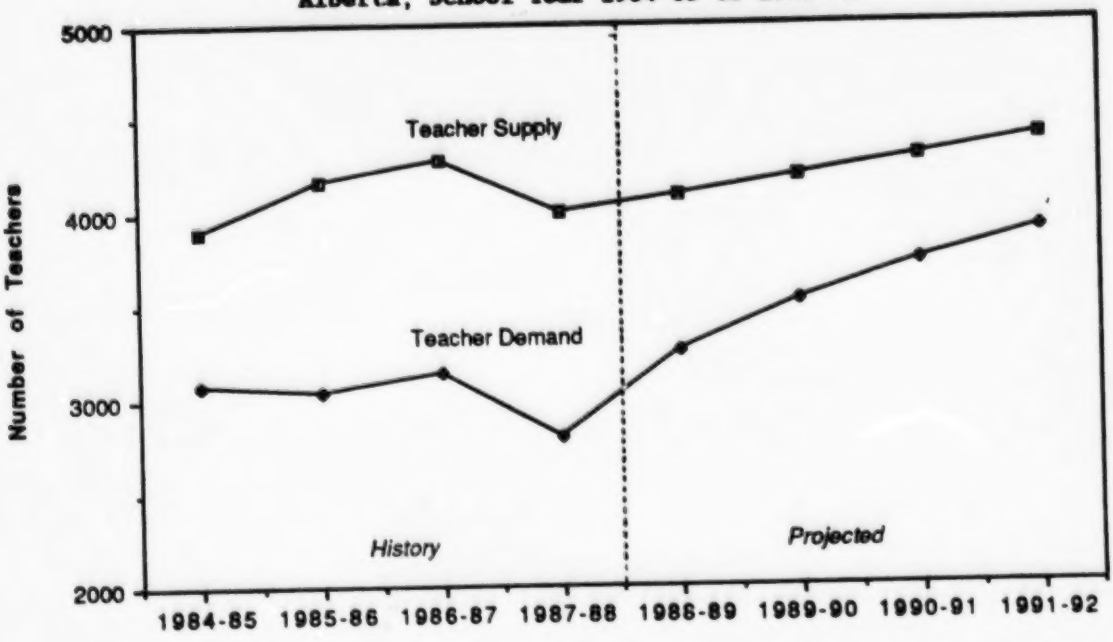
A. **Teacher Oversupply (See Exhibit 1, next page):**
If there is no mass exodus of Alberta teachers to areas of projected teacher shortages elsewhere (e.g., Ontario and California), teacher supply is expected to continue to outstrip teacher demand by approximately 640 FTE (full-time equivalent) teachers annually (an average annual supply of about 4,240 teachers minus an average annual demand of about 3,600 teachers) over the forecast period (1988-89 to 1991-92). Later, in the mid-1990s, increasing retirements due to an aging teacher workface may produce a teacher shortage.

B. **Supply Components (See Exhibit 2 in the Appendix):**
Teacher supply is expected to average about 4,240 teachers annually over the forecast period, comprised of three components:
(a) Alberta university graduates, about 2,000 annually (47%),
(b) Out-of-province aspirants, about 1,150 annually (27%), and
(c) Re-entrants to the teacher workforce, about 1,090 annually (26%).

C. **Demand Components (See Exhibit 3 in the Appendix):**
The total demand for additional teachers is expected to average about 3,600 FTE teachers annually (13% of an average annual teacher workforce of 27,470 FTE teachers over the forecast period, 11.7% from turnover and 1.3% from workforce expansion). The breakdown of these two components is as follows:
(a) Turnover: The bulk of teacher demand (90%) derives from turnover (retirements and other departures from the teacher workforce); an average of about 3,250 FTE teachers per year will probably be required for this replacement demand over the forecast period.
(b) Workforce Expansion: A small component of teacher demand (10%) is related to projected enrollment increases, chiefly at the ECS and elementary school levels (see Exhibit 5 in the Appendix); an average of only about 300-400 new FTE teachers per year will probably be required to serve this "baby boomlet" over the forecast period. This "boomlet" will be relatively short-lived; grade one enrolments are projected to start decreasing again in 1993.

**EXHIBIT 1**

**ACTUAL AND PROJECTED FTE[1] TEACHER[2] SUPPLY AND DEMAND**
**ECS[3] To Grade 12, Public/Separate & Private Schools[4]**
**Alberta, School Year 1984-85 to 1991-92**




| SCHOOL YEAR | TEACHER WORKFORCE | TEACHER SUPPLY | TEACHER DEMAND | TEACHER SURPLUS |
|---|---|---|---|---|
| 1984-85 | 26,990 | 3,893 | 3,086 | 807 |
| 1985-86 | 27,120 | 4,156 | 3,047 | 1,109 |
| 1986-87 | 27,086 | 4,279 | 3,141 | 1,138 |
| 1987-88 | 26,724 | 3,990 | 2,802 | 1,188 |
| **Total 4-Yr. History** | | **16,318** | **12,076** | **4,242** |
| **Projected** | | | | |
| 1988-89 | 26,883 | 4,089 | 3,259 | 830 |
| 1989-90 | 27,207 | 4,191 | 3,524 | 667 |
| 1990-91 | 27,641 | 4,291 | 3,734 | 557 |
| 1991-92 | 28,137 | 4,391 | 3,896 | 495 |
| **Total 4-Yr. Projected** | | **16,962** | **14,413** | **2,549** |

1 FTE — Full-Time Equivalent (2 half-time teachers = 1 FTE teacher)
2 Teacher — Any certificated staff, including certificated central office and school administrators, counsellors, etc
3 ECS — Early Childhood Services (pre-grade 1 pupils)
4 Schools — Excluding Lloydminister
5 Demand — The combined effect of turnover (3,100 FTE teachers in 1988-89) plus new positions (159 in 1988-89).

## ASSUMPTIONS REGARDING TEACHER SUPPLY/DEMAND FORECAST

1. Alberta will experience an economic turnaround in 1989. This is based on Alberta Bureau of Statistics Series 5 population projections, a medium-growth scenario with the present net negative migration continuing through 1988 and 1989.

2. Despite net outmigration, ECS and elementary school enrollments will continue the present trend of increasing modestly, as a result of the so-called "baby boom echo" or "baby boomlet." (See Exhibits 4 and 5 in the Appendix.)

3. Alberta universities will continue to graduate modestly increasing numbers of teacher graduates each year; quotas will not be imposed on education faculties. If Alberta universities do impose quotas on education faculties, the present stream of graduates will not be affected until 4 years later, when the restricted number of freshmen would be reflected in a reduced number of graduates.

4. There will not be a mass exodus of Alberta teachers to Ontario and the Western United States (especially California), on the basis of reported projected teacher shortages there.

5. The upward bias in the teacher supply figures caused by over-reporting in two categories (out-of-province teachers and Alberta university graduates, all of whom do not enter the teacher labor force in Alberta) is counterbalanced by the downward bias caused by the unreported "pool" of unemployed or underemployed teachers ready/willing to work in the teacher labor force if needed.

6. The pupil/teacher ratio will continue at its present level of 17.1.

7. An aging teacher population will mean a modestly increasing number of teachers will leave the Alberta teacher labor force over the forecast period.

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**NOTE:** The total pupil enrollment figures for Alberta used in this study may be lower than the total enrollment figures published elsewhere. This is because the following pupils have been excluded from the teacher supply and demand study:

1. Lloydminster pupils are excluded because the teachers are employed by the province of Saskatchewan.
2. Category 4 Private School pupils are excluded because most, if not all, of the teachers are either uncertificated or unreported on the provincial teacher database used.
3. ECS (Early Childhood Services) pupil counts are halved because most ECS programs are half-day programs; the reduction is necessary to preserve comparability with the computed pupil/teacher ratios for full-day Grade 1 to 12 programs.

**APPENDIX**

## EXHIBIT 2

### ACTUAL AND PROJECTED TEACHER SUPPLY
### Alberta, ECS to Grade 12, Public/Separate And Private Schools

| YEAR | RE-ENTRANTS TO THE PROFESSION[1] | UNIVERSITY GRADUATES[2] | INITIAL OUT-OF-PROVINCE CERTIFICATES ISSUED[3] | TOTAL ADDITIONAL SUPPLY |
|---|---|---|---|---|
| Actual | | | | |
| 1984-85 | 1,517 | 1,641 | 735 | 3,893 |
| 1985-86 | 1,573 | 1,592 | 991 | 4,156 |
| 1986-87 | 1,426 | 1,718 | 1,135 | 4,279 |
| 1987-88 | 1,091 | 1,749 | 1,150 | 3,990 |
| Actual Totals | 5,607 | 6,700 | 4,011 | 16,318 |
| Projected | | | | |
| 1988-89 | 1,091 | 1,848 [4] | 1,150 | 4,089 |
| 1989-90 | 1,091 | 1,950 | 1,150 | 4,191 |
| 1990-91 | 1,091 | 2,050 | 1,150 | 4,291 |
| 1991-92 | 1,091 | 2,150 | 1,150 | 4,391 |
| Projected Totals | 4,364 | 7,998 | 4,600 | 16,962 |

1 These are former Alberta teachers who have returned to the teacher labor force; excludes Lloydminister and substitute teachers; includes certificated Category 4 private school teachers, if any.

2 Previous year graduates from Faculties of Education (The University of Alberta, University of Calgary, University of Lethbridge); i.e., graduates shown for the school year named graduated from university during the previous school year.

3 Includes Interim Certificates for out-of-province teachers, Letters of Authority, and Temporary Letters of Authority.

4 An estimated 1,848 graduates is projected (1,177 from The University of Alberta, 511 from the University of Calgary, and 160 from the University of Lethbridge during the previous school-year 1987-88, for school year 1988-89.

Sources:
- Teacher Certification and Development Branch, Alberta Education.
- Information Services Branch, Alberta Education.
- Registrars of the 3 Alberta Universities.

EXHIBIT 3

## ACTUAL AND PROJECTED FTE TEACHER[1] DEMAND
### Alberta, ECS to Grade 12, Public/Separate & Private Schools

| SCHOOL YEAR | (1) WEIGHTED PUPILS[2] (ECS WEIGHTED 0.5) | (2) FTE (FULL-TIME EQUIVALENT) TEACHERS REQUIRED (Subs excluded) | (3) PUPIL/ TEACHER RATIO | (4) EXPANSION (OR CONTRACTION) OF FTE TEACHERS REQUIRED (Over previous Year) | (5) REPLACEMENT DEMAND[3] (Teachers Leaving Workforce) | (6) TOTAL NEW DEMAND |
|---|---|---|---|---|---|---|
| **Actual** | | | | | | |
| 1983-84 (Base Yr.) | 452,568 | 26,408 | 17.1 | | | |
| 1984-85 | 450,718 | 26,990 | 16.7 | 582 | 2,504 | 3,086 |
| 1985-86 | 452,646 | 27,120 | 16.7 | 130 | 2,917 | 3,047 |
| 1986-87 | 455,868 | 27,086 | 16.8 | (34) | 3,175 | 3,141 |
| 1987-88 Est. | 457,022 | 26,724 | 17.1 | (362) | 3,164 | 2,802 |
| **Total 4-Yr. History** | | | | 316 | 11,760 | 12,076 |
| **Projected** | | | | | | |
| 1988-89 | 459,698 | 26,883 | 17.1 | 159 | 3,100 | 3,259 |
| 1989-90 | 465,245 | 27,207 | 17.1 | 324 | 3,200 | 3,524 |
| 1990-91 | 472,664 | 27,641 | 17.1 | 434 | 3,300 | 3,734 |
| 1991-92 | 481,147 | 28,137 | 17.1 | 496 | 3,400 | 3,896 |
| **Total 4-Yr. Projected** | | | | 1,413 | 13,000 | 14,413 |

**Sources:** Pupils: Grants Planning & Admininistration (modified by weighting ECS pupils 0.5)
Teachers: Teacher Certification & Development

**Assumptions:** a) Pupil/Teacher Ratio based on assumption that it will be constant at the present level of 17.1
b) Projected replacement demand includes an increasing annual estimate for retirees in an aging teacher force

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1 Teacher includes any certificated staff, including central office and school-based adminstrators and specialists
2 Excludes Lloydminister, Category 4 Private Schools; each ECS pupil is weighted 0.5 since most attend half-day programs and the calculated pupil/teacher ratio would be skewed higher if the pupils were not so weighted
3 Excludes Lloydminister and substitute teachers; includes certificated Category 4 Private School teachers, if any

EXHIBIT 4

**ACTUAL AND PROJECTED TOTAL PUPIL ENROLLMENTS (WEIGHTED)**
**Alberta, Public/Separate and Private Schools**
ECS to Grade 12, School Year 1984-85 to 1991-92

| SCHOOL YEAR | PUB/SEP. & PRIVATE ECS | WEIGHT ECS 0.5 | PUBLIC/ SEPARATE 1-12 | PRIVATE 1-12 (EXCL.CAT 4) | TOTAL ENROLLMENT (WEIGHTED) | % INCREASE OVER PREVIOUS YEAR |
|---|---|---|---|---|---|---|
| 1983-84 (Base Yr.) | 36,642 | -18,321 | 422,764 | 11,483 | 452,568 | - |
| 1984-85 | 36,337 | -18,169 | 420,632 | 11,918 | 450,718 | -0.4% |
| 1985-84 | 37,734 | -18,867 | 421,252 | 12,527 | 452,646 | 0.4% |
| 1986-87 | 39,464 | -19,732 | 423,372 | 12,764 | 455,868 | 0.7% |
| 1987-88 | 40,242 | -20,121 | 423,900 | 13,001 | 457,022 | 0.3% |
| **Projected** | | | | | | |
| 1988-89 | 40,470 | -20,235 | 426,360 | 13,103 | 459,698 | 0.6% |
| 1989-90 | 40,902 | -20,451 | 431,553 | 13,241 | 465,245 | 1.2% |
| 1990-91 | 41,466 | -20,733 | 438,479 | 13,452 | 472,664 | 1.6% |
| 1991-92 | 41,898 | -20,949 | 446,510 | 13,688 | 481,147 | 1.8% |

**Sources:** Alberta Education, Information Services
Alberta Education, Grants Planning & Administration

**Notes:**
- Each ECS (Early Childhood Services) pupil is weighted 0.5 since half day ECS programs are the general rule
- Figures exclude Lloydminister, Category 4 Private Schools

EXHIBIT 5

PROJECTED TOTAL PUPIL ENROLMENTS BY GRADE
Alberta, Pupil/Separate & Private Schools[1]
ECS to Grade 12, School Year 1988-89 to 1991-92

| GRADE | 1987-88 (Base Year) | 1988-89 | 1989-90 | 1990-91 | 1991-92 | % INCREASE OVER 1987-88 |
|---|---|---|---|---|---|---|
| **Public/Separate & Private:** | | | | | | |
| ECS | 40,242 | 40,470 | 40,902 | 41,466 | 41,898 | 4.1% |
| **Public/Separate:** | | | | | | |
| 1 | 40,508 | 41,926 | 42,859 | 43,743 | 44,052 | 8.7% |
| 2 | 36,440 | 37,334 | 38,535 | 39,486 | 40,065 | 9.9% |
| 3 | 34,689 | 35,189 | 36,252 | 37,475 | 38,415 | 10.7% |
| 4 | 33,700 | 34,238 | 34,930 | 36,039 | 37,259 | 10.6% |
| 5 | 33,459 | 33,534 | 34,220 | 34,958 | 36,071 | 7.8% |
| 6 | 32,978 | 33,136 | 33,360 | 34,077 | 34,822 | 5.6% |
| Elem. Ungraded | 5,797 | 5,879 | 5,994 | 6,150 | 6,300 | 8.7% |
| 7 | 33,152 | 33,452 | 33,764 | 34,042 | 34,766 | 4.9% |
| 8 | 32,322 | 32,800 | 33,252 | 33,609 | 33,897 | 4.9% |
| 9 | 31,250 | 31,071 | 31,675 | 32,157 | 32,506 | 4.0% |
| Jr.High Ungraded | 3,976 | 3,991 | 4,072 | 4,108 | 4,164 | 4.7% |
| 10 | 32,100 | 31,524 | 31,158 | 32,149 | 32,651 | 1.7% |
| 11 | 31,377 | 30,356 | 29,965 | 30,013 | 30,645 | -2.3% |
| 12 | 37,647 | 37,495 | 36,780 | 36,347 | 36,450 | -3.2% |
| Sr.High Ungraded | 4,506 | 4,436 | 4,378 | 4,396 | 4,447 | -1.3% |
| **Private Schools:** | | | | | | |
| 1-12 | 13,001 | 13,103 | 13,241 | 13,452 | 13,688 | 5.3% |
| TOTAL | 477,143 | 479,933 | 485,696 | 493,397 | 502,096 | 5.2% |

Source: Alberta Education, Grants Planning & Administration

1 Figures exclude Lloydminister, Category 4 Private Schools